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CLAIMS DETAILED DESCRIPTION  
TECHNICAL FIELD PRIOR ART  
EFFECT OF THE INVENTION  
TECHNICAL PROBLEM MEANS  
EXAMPLE DESCRIPTION OF  
DRAWINGS DRAWINGS

[Translation done.]

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## DETAILED DESCRIPTION

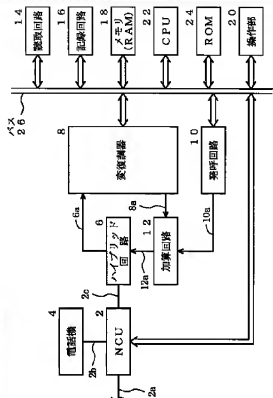
[Detailed Description of the Invention]  
 [0001]

[Field of the Invention]This invention relates to pictorial communication equipment, and relates to the pictorial communication equipment in which color facsimile communication is possible especially.

[0002]

[Description of the Prior Art]When color facsimile reception is carried out, the facsimile machine in which the conventional color facsimile communication is possible is printing this stored picture immediately, once it stores this received picture in a memory. And after printing [ above-

## Drawing selection Representative draw



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[Translation done.]

mentioned ], the printed color facsimile picture is eliminated from a memory among the pictures stored in the above-mentioned memory.

[0003]Memory receiving etc. eliminate a described image from a memory, after the picture which carried out [ above-mentioned ] facsimile reception is printed, when not \*\*\*\*\* (ing) immediately the picture which carried out facsimile reception.

[0004]The reason for carrying out facsimile reception and eliminating the printed picture from a memory here is for securing the free space for storing the picture received next time by eliminating the received picture from a memory.

[0005]

[Problem(s) to be Solved by the Invention]By the way, when the picture which carried out color facsimile reception is a photograph of a family and fellow friends, etc., for example, two or more these received color facsimile pictures are printed, and there is a request of liking to supply some persons widely. However, in the conventional color facsimile device, since the picture which carried out color facsimile reception will be eliminated from the memory provided in the facsimile machine if one copy is printed, there is a problem that two or more received color facsimile pictures cannot be printed, and cannot be distributed.

[0006]Although copying the printed color information two or more copies is also considered, since image quality will deteriorate remarkably compared with a monochrome image if it re-copies, color information is not preferred.

[0007]Even if it is able to set up beforehand what two or more received facsimile images should be printed for before printing, even the color facsimile picture which does not have to carry out two or more copy number printing, and monochrome facsimile image will print by number of copies

which set [ above-mentioned ] up, and will carry out two or more copy number printing vainly. That is, after printing and recognizing the received color facsimile picture visually, according to a picture, the problem that required number of copies cannot be printed is.

[0008]If the memory which, on the other hand, saves all the received facsimile images is extended to a facsimile machine, the above-mentioned problem will be solved, but when it does in this way, there is a problem of becoming a cost hike of a facsimile machine.

[0009]The above-mentioned problem is a problem generated also in the pictorial communication equipment (for example, a TV phone with a print function, a personal computer with a print function) which can color-print the picture which could carry out color facsimile communication and moreover carried out color facsimile reception.

[0010]In pictorial communication equipment, an object of this invention is to provide the pictorial communication equipment which can print again the picture same after the color facsimile picture which small memory space also received is printed as the color facsimile picture printed [ above-mentioned ] several necessary part minutes.

[0011]

[Means for Solving the Problem]In pictorial communication equipment in which color facsimile communication is possible, this invention stores a color facsimile picture received newly, It is the pictorial communication equipment which inputted number of copies which prints this color facsimile picture stored, and inputted [ above-mentioned ] a color facsimile picture stored [ above-mentioned ] and which is printed by print copies.

[0012]In pictorial communication equipment in which color facsimile communication of this invention is

possible, It is the memory which prints a received color facsimile picture and is provided in a described image communication apparatus. In a memory currently allocated in order to hold even after printing a received color facsimile picture. A picture which should store one color facsimile picture after another received newly, and should be carried out re printing among two or more printed color facsimile pictures stored [ above-mentioned ] is chosen. When the sum total of the amount of information about two or more printed color facsimile pictures stored in the above-mentioned memory exceeds a predetermined value, It is pictorial communication equipment eliminated sequentially from the oldest color facsimile picture until the sum total of the amount of information about two or more printed color facsimile pictures stored in the above-mentioned memory reaches below the above-mentioned predetermined value.

[0013]In pictorial communication equipment in which color facsimile communication of this invention is possible, Image size which detected image size of a received color facsimile picture, and detected [ above-mentioned ], It is pictorial communication equipment which outputs a picture to a printer according to size of a record paper which prints a color facsimile picture which received [ above-mentioned ] so that the above-mentioned record paper of one sheet may be made to print two or more same color facsimile pictures that received [ above-mentioned ].

[0014]In a pictorial communication method for pictorial communication equipment in which color facsimile communication of this invention is possible, It is the pictorial communication method which a color facsimile picture received newly was stored, inputted number of copies which prints this color facsimile picture stored, and inputted [ above-

mentioned ] a color facsimile picture stored [ above-mentioned ] and which is printed by print copies.

[0015] In a pictorial communication method for pictorial communication equipment in which color facsimile communication of this invention is possible, It is the memory which prints a received color facsimile picture and is provided in a described image communication apparatus, In a memory currently allocated in order to hold even after printing a received color facsimile picture. A picture which should store one color facsimile picture after another received newly, and should be carried out re printing among two or more printed color facsimile pictures stored [ above-mentioned ] is chosen, When the sum total of the amount of information about two or more printed color facsimile pictures stored in the above-mentioned memory exceeds a predetermined value, It is the pictorial communication method eliminated sequentially from the oldest color facsimile picture until the sum total of the amount of information about two or more printed color facsimile pictures stored in the above-mentioned memory reaches below the above-mentioned predetermined value.

[0016] In a pictorial communication method for pictorial communication equipment in which color facsimile communication of this invention is possible, Image size which detected image size of a received color facsimile picture, and detected [ above-mentioned ], It is the pictorial communication method which outputs a picture to a printer according to size of a record paper which prints a color facsimile picture which received [ above-mentioned ] so that the above-mentioned record paper of one sheet may be made to print two or more same color facsimile pictures that received [ above-mentioned ].

[0017]

[An embodiment of the invention and

an example] The [1st example]  
Drawing 1 is a block diagram showing  
 composition of facsimile machine  
 FS10 which is the 1st example of this  
 invention.

[0018]It is provided in order to use a  
 telephone network for data  
 communications etc., and it is  
 connected to a terminal of a circuit of a  
 telephone network, and NCU(network  
 control unit) 2 performs connect  
 control of telephone exchange  
 network, it switches a data  
 communication line, and holds a loop.  
 By control from the bus 26, NCU2  
 connects the telephone line 2a to the  
 telephone 4 side (CML OFF), or it  
 connects the telephone line 2a to  
 facsimile machine FS10 side (CML  
 one). The telephone line 2a is  
 connected to the telephone 4 side in a  
 normal state.

[0019]The hybrid circuit 6 separates  
 the signal of a transmission system,  
 and the signal of a receiving system,  
 sends out the sending signal from the  
 adder circuit 12 to the telephone line  
 2a by NCU2 course, receives the  
 signal from the other party by NCU2  
 course, and sends it to the modulator  
 and demodulator 8 via signal wire 6a.

[0020]The modulator and demodulator  
 8 are modulator and demodulator  
 which perform ITU-T recommendation  
 V.8, V.21, V.27ter, V.29, V.17, the  
 abnormal conditions based on V.34,  
 and a recovery, and each transmission  
 mode is specified by control of the bus  
 26. The modulator and demodulator 8  
 input the sending signal from the bus  
 26, input the input signal which  
 outputs modulation data to the signal  
 wire 8a, and is outputted to the signal  
 wire 6a, and output demodulated data  
 to the bus 26.

[0021]With the signal from the bus 26,  
 the call origination circuit 10 inputs  
 telephone number information, and  
 outputs the selection signal of DTMF  
 to the signal wire 10a, and the adder  
 circuit 12 outputs the result of having  
 inputted and added the information on

the signal wire 8a, and the information on the signal wire 10a to the signal wire 12a.

[0022]The read circuit 14 is a read circuit which can read a color picture, and outputs the read data to the bus 26. The record circuit 16 is a record circuit which can record a color picture, and records the information currently outputted to the bus 26 for every line one by one.

[0023]The memory 18 is a memory (RAM) for works, and is a memory used since the raw information of the read data or the coded information is stored and receipt information or the decrypted information is stored via the bus 26.

[0024]The memory 18 possesses the memory area (not shown) assigned since the received color facsimile picture was stored.

[0025]The final controlling element 20 possesses the function key of an one-touch dial, abbreviated dialing, a ten key, the \* key, the # key, a start key, a stop key, a set key, and others, and the pushed key information is outputted to the bus 26.

[0026]The final controlling element 20 possesses an indicator, inputs the information currently outputted to the bus 26, and displays it on this indicator.

[0027]CPU(central processing unit) 22 controls the facsimile machine FS10 whole, and performs a facsimile-transmission control procedure. And the program which controls CPU22 is stored in ROM24.

[0028]In facsimile machine FS10 in which the color facsimile communication of ROM24 is possible, The color facsimile picture received newly is stored in the memory circuit 18, Number of copies which prints the color facsimile picture stored in this memory 18, It is the memory which stores the program which operates CPU22 so that a part for the print copies which inputted from the final controlling element 20 and inputted the

color facsimile picture stored in the above-mentioned memory 18 from the above-mentioned final controlling element 20, and the record circuit 16 may print. in addition -- eliminating the color facsimile picture received before this color facsimile picture received newly from the above-mentioned memory 18, when a color facsimile picture is received newly -- the above -- it may be made to store in the above-mentioned memory 18 only the color facsimile picture received newly

[0029]Next, operation of facsimile machine FS10 is explained.

[0030]Drawing 2 - drawing 4 are the flow charts showing operation of facsimile machine FS10.

[0031]First, CPU22 provided in facsimile machine FS10 initializes the memory 18 via the bus 26 (S2), clears the indicator provided in the final controlling element 20 via the bus 26, and turns off CML of NCU2 via (S4) and the bus 26 (S6).

[0032]Then, if it judges whether facsimile reception occurred (S8) and facsimile reception is not chosen, via the bus 26, the information on the final controlling element 20 will be inputted, and printing the color facsimile picture received at the end will judge whether it was chosen or not (S10). Here, the relation between "the color facsimile picture received at the end" and "the color facsimile picture received newly" is explained. When a color facsimile picture is received newly, this color facsimile picture received newly turns into a color facsimile picture received at the end. And the color facsimile picture received at the end by this color facsimile picture received newly whenever it received the color facsimile picture newly is updated.

[0033]On the other hand, if facsimile reception is chosen (S8), via the bus 26 (S14) and a pre procedure will be performed (S16). [ CML of NCU2 ] Execution of this pre procedure



notifies that facsimile machine FS10 possesses a color facsimile receiving function to the transmitting agency facsimile machine which transmits a facsimile image.

[0034]Next, when the above-mentioned transmitting agency facsimile machine judges whether color facsimile transmission was specified (S18) and color facsimile transmission is not specified, the remaining pre procedures are performed (S20).

[0035]On the other hand, when color facsimile transmission is specified (S18), the color facsimile picture which performed the remaining pre procedures (S26), stored the received color facsimile picture in the memory 18, and was stored in this memory 18 is printed (S28). It memorizes after this end of printing, without eliminating the above-mentioned color facsimile picture stored in the memory 18. When receiving the following new color facsimile picture, it may be made to eliminate this memorized color facsimile picture.

[0036]Then, a defensive hand's order is performed (S30) and it prepares for the next facsimile reception.

[0037]In Step S18, when a transmitting agency facsimile machine does not specify color facsimile transmission, monochrome facsimile image which performs the remaining pre procedures (S20), stores received monochrome facsimile image in the memory 18, and is stored in this memory 18 is printed (S22). Since there is little image quality deterioration even if it copies the printed monochrome image, monochrome facsimile image stored in the above-mentioned memory 18 is eliminated after this end of printing.

[0038]Then, a defensive hand's order is performed (S24) and it prepares for the next facsimile reception.

[0039]In Step S8, if facsimile reception is not chosen, via the bus 26, the information on the final controlling

element 20 will be inputted, and printing the color facsimile picture received at the end will judge whether it was chosen or not (S10). And when printing the color facsimile picture received at the above-mentioned last is not chosen, others are processed (S12) and it prepares for the next facsimile reception.

[0040]When, printing the color facsimile picture received at the above-mentioned last on the other hand is chosen (S10), by the user of facsimile machine FS10. The print copies of the color facsimile picture received at the above-mentioned last inputted from the final controlling element 20 are detected (S32), and the color facsimile picture received at a part for these detected print copies and the above-mentioned last is printed (S34).

[0041]According to the above-mentioned example, the color facsimile picture received newly is memorized until it receives the following new color facsimile picture, Since this memorized color facsimile picture is eliminated when it receives the following new color facsimile picture, The picture as the color facsimile picture printed [ above-mentioned ] whose capacity of the memory 18 which stores the received color facsimile picture is the same once the received color facsimile picture is printed at least can be printed several necessary part minutes again. Therefore, for example, color facsimile reception of the photograph of a family and fellow friends is carried out, One copy of this received picture is printed, the contents are checked, and when it is judged that it is a picture which deserves what is called an extra copy, a part for the number which wants a color facsimile picture, and this color facsimile picture can be printed.

[0042]The [2nd example] Drawing 5 is a block diagram showing the composition of facsimile machine FS20 which is the 2nd example of this invention.

[0043]The 2nd example carries out prescribed capacity assignment of the memory area which stores the received color facsimile picture in the 1st example (assigning), One color facsimile picture after another received newly is stored in this assigned memory area, When the sum total of the amount of information about two or more color facsimile pictures stored in the above-mentioned memory area exceeds a predetermined value, Until the sum total of the amount of information about two or more color facsimile pictures stored in the above-mentioned memory area reaches below the above-mentioned predetermined value, When eliminating one or two color facsimile pictures or more and carrying out this elimination moreover out of two or more color facsimile pictures stored in the above-mentioned memory area, The picture printed among two or more color facsimile pictures which eliminate sequentially from the oldest color facsimile picture, and are stored in the above-mentioned memory area, When the user of facsimile machine FS20 chooses and the user of facsimile machine FS20 specifies the print copies of this selected picture, it is an example of the facsimile machine which was specified [ above-mentioned ] in the picture chosen [ above-mentioned ] and which is printed by number of copies.

[0044]The fundamental composition of facsimile machine FS20 is the same as facsimile machine FS10, and it differs from facsimile machine FS10 in that CPU22A and ROM24A are provided instead of CPU22 and ROM24.

[0045]CPU22A controls the facsimile machine FS20 whole, and performs a facsimile-transmission control procedure. And the program which controls CPU22A is stored in ROM24A.

[0046]In facsimile machine FS20 in which color facsimile communication is possible ROM24A, To the memory area (memory area assigned since the

received color facsimile picture was stored) established in the memory 18 which facsimile machine FS20 possesses. When the sum total of the amount of information about two or more color facsimile pictures which store one color facsimile picture after another received newly, and are stored in the above-mentioned memory area exceeds a predetermined value, Until the sum total of the amount of information about two or more color facsimile pictures stored in the above-mentioned memory area reaches below the above-mentioned predetermined value, When eliminating one or two color facsimile pictures or more and carrying out this elimination moreover out of two or more color facsimile pictures stored in the above-mentioned memory area, The picture which should be printed among two or more color facsimile pictures which eliminate sequentially from the oldest color facsimile picture, and are stored in the above-mentioned memory area, A part for the print copies which it chose using the information inputted from the final controlling element 20, inputted number of copies which prints this selected picture from the final controlling element 20, and inputted [ above-mentioned ] the color facsimile picture which chose [ above-mentioned ], It is the memory which stores the program which operates CPU22A so that the record circuit 16 may print.

[0047]Drawing 6 - drawing 7 are the flow charts showing operation of facsimile machine FS20 which is the 2nd example.

[0048]Drawing 6 - drawing 7 show only a different portion in the flow chart of drawing 2 - drawing 3.

[0049]A transmitting agency facsimile machine specifies color facsimile transmission (S18), After performing the remaining pre procedures (S26), the color facsimile picture which stores in the memory area in which the color facsimile picture received newly is

provided by the memory 18, and is stored in this memory 18 is printed (S42). A value predetermined in the sum total of the amount of information about the color facsimile picture which is stored in the memory area here and which has been printed [ some ]. Since a possibility that it may become impossible to store the color facsimile picture received newly next is high when it is over (for example, 80% of the full storage capacity of a memory area), One or two color facsimile pictures or more are eliminated out of some color facsimile pictures stored in the above-mentioned memory area until the sum total of the above-mentioned amount of information reaches below the above-mentioned predetermined value. When carrying out this elimination, it eliminates sequentially from the color facsimile picture stored in the oldest time. The opening of a memory area is secured by this elimination.

[0050] Then, a defensive hand's order is performed (S44) and it prepares for the next facsimile reception.

[0051] If facsimile reception is not chosen (S8), the information on the final controlling element 20 will be inputted via the bus 26. It will be the picture which carried out color facsimile reception, it judges whether printing the picture stored in the memory 18 was chosen (S50), and if printing is not chosen, it will process others (S12) and will prepare for the next facsimile reception.

[0052] On the other hand, if it is the picture which carried out color facsimile reception and printing the picture stored in the memory 18 is chosen (S50), via the bus 26, From the final controlling element 20, are the picture stored in the memory 18, input the number of the color facsimile reception picture which the user of facsimile machine 1'S20 is going to print (S54), and via the bus 26 further, From the final controlling element 20, the print copies of the picture

applicable to the number which inputted [ above-mentioned ] are inputted (S56), it was specified [ above-mentioned ] and number-of-copies printing of the picture applicable to the above-mentioned number is carried out (S58). Then, CML is turned off (S6) and it prepares for the next facsimile reception. [0053]According to facsimile machine FS20, to the memory area assigned since the received color facsimile picture was stored. Since the color facsimile picture of shoes to receive not only before the color facsimile picture received newly but before this facsimile image received newly is stored, the above -- not only a color facsimile picture but the above which received newly -- the color facsimile picture of shoes to receive to the latest including the color facsimile picture received newly, It can number[ of necessary parts ]-print again, and the demand about the image printing of the user of a facsimile machine can be satisfied flexibly.

[0054]Although the facsimile machine was hung up over the example and each above-mentioned example explains it, It is pictorial communication equipment other than a facsimile machine, and color facsimile communication can be carried out, And the above-mentioned example is applicable to the pictorial communication equipment (for example, a TV phone with a print function, a personal computer with a print function) which can color-print the picture which carried out color facsimile reception.

[0055]By the way, the facsimile machine in which the conventional color facsimile communication is possible records this one received color facsimile picture on the record paper of one sheet, when one color facsimile picture is received.

[0056]It is expected photograph size (specifically A6 size) and that appear and the image size of a color facsimile

picture is transmitted rather than A4 size in many cases. In this case, if one picture of A6 size is recorded on one sheet of record paper of A4 size, there are many margin portions of a record paper and the problem that there is much futility is in a record paper.

[0057]One picture especially sent in a color prints two or more these one received pictures, for example as it is fellow friends' photograph, and there is a request of liking to supply some persons widely. In this case, when the above-mentioned fellow friends' photograph is recorded on the record paper of one sheet, one picture of A6 size will be recorded on one sheet of record paper of A4 size, there are many margin portions of a record paper and the problem that there is much futility is in a record paper.

[0058]The above-mentioned problems are pictorial communication equipment other than a facsimile machine, and are problems to produce also in the pictorial communication equipment (for example, a TV phone, a personal computer) which color facsimile communication is possible and can record the color facsimile picture moreover received.

[0059]The [3rd example] Drawing 8 is a block diagram showing the composition of facsimile machine FS30 which is the 3rd example of this invention.

[0060]Drawing 9 is a figure showing the state where made the one-touch dial number and the telephone number of the transmission destination facsimile machine correspond, and it has registered etc.

[0061]In order to use a telephone network for data communications etc., it is connected to the terminal of the circuit of a telephone network, and NCU(network control unit) 102 performs connect control of telephone exchange network, switches a data communication line, and holds a loop. By control from the bus 126, NCU102 connects the telephone line 102a to the

telephone 104 side (CML OFF), and connects the telephone line 102a to facsimile machine FS30 side (CML one). The telephone line 102a is connected to the telephone 104 side in the normal state.

[0062]The hybrid circuit 106 separates the signal of a transmission system, and the signal of a receiving system, The sending signal from the adder circuit 112 is sent out to the telephone line 102a by NCU102 course, the signal transmitted from the other party facsimile machine is received by NCU102 course, it is a signal wire 106a course, and this received signal is sent to the modulator and demodulator 108.

[0063]The modulator and demodulator 108 are modulator and demodulator which perform ITU-T recommendation V.8, V.21, V.27ter, V.29, V.17, the abnormal conditions based on V.34, and a recovery, and each transmission mode is specified by control of the bus 126. The modulator and demodulator 108 input the sending signal from the bus 126, input the input signal which outputs modulation data to the signal wire 108a, and is outputted to the signal wire 106a, and output demodulated data to the bus 126.

[0064]The call origination circuit 110 is a circuit which inputs telephone number information and outputs the selection signal of DTMF to the signal wire 110a with the signal from the bus 126.

[0065]The adder circuit 112 is a circuit which outputs the result of having inputted and added the information on the signal wire 108a, and the information on the signal wire 110a to the signal wire 112a.

[0066]The read circuit 114 is a circuit which outputs the read image data to the bus 126, and the record circuit 116 is a circuit which records the information currently outputted to the bus 126 for every line one by one.

[0067]The memories 118 are a memory (RAM) for works, and a



memory used since the raw information of read data or the coded information is stored and a reception picture or the decrypted information is further stored via the bus 126.

[0068]The memory 118 is a memory which was made to correspond with an one-touch dial number and the telephone number of the transmission destination facsimile machine which is a transmission destination of facsimile information, and has been registered, as shown in drawing 9 (2).

[0069]The memory 118 is a memory which has registered the transmission destination facsimile machine which prints two or more color facsimile picture information which received on the record paper of one sheet among the transmission destination facsimile machines of shoes to be registered into the above-mentioned one-touch dial number, as shown in drawing 9 (1).

[0070]An one-touch dial, abbreviated dialing, a ten key, the \* key, the # key, a start key, a stop key, a set key, the register key to the memory 118, and others carry out function key possession of the final controlling element 120, and the pushed key information is outputted to the bus 126. The final controlling element 120 possesses an indicator, and this indicator inputs the information currently outputted to the bus 126, and displays it.

[0071]CPU(central processing unit) 122 controls the facsimile machine FS30 whole, and a facsimile-transmission control procedure is performed, and this control program is stored in ROM124.

[0072]In facsimile machine FS30 in which the color facsimile communication of ROM124 is possible, Detect the image size of the received color facsimile picture, and This detected image size, As two or more record circuits 116 are used for the above-mentioned record paper of one sheet and the color facsimile picture which received [ above-

mentioned ] is printed on it according to the size of the record paper which prints the color facsimile picture which received [ above-mentioned ], it is the memory which stores the program which operates CPU122. When printing two or more color facsimile pictures which received [ above-mentioned ] on the above-mentioned record paper of one sheet, printing is desirable so that two or more above-mentioned color facsimile pictures printed may not lap mutually.

[0073]Here, an example of the processing "which prints two or more received color facsimile pictures on the record paper of one sheet" is hung up over the next.

[0074]2 pages of color facsimile pictures of A6 size are received by one communication. When the size of the record paper which prints this received color facsimile picture is A4 size, the three page [ 1st ] color facsimile pictures received in the record paper of the 1st sheet are printed, and the three page [ 2nd ] color facsimile pictures received in the record paper of the 2nd sheet are printed.

[0075]ROM124 is a memory which stores the program which operates CPU122 so that it may display on the indicator in which the information on the purport that two or more received color facsimile pictures are printed on the above-mentioned record paper of one sheet is provided by the final controlling element 120.

[0076]When ROM124 prints two or more received color facsimile pictures on the above-mentioned record paper of one sheet, It is the memory which stores the program which operates CPU122 so that a perforated line may be printed using the record circuit 16 on the boundary line of the above-mentioned color facsimile picture which prints.

[0077]When the facsimile image which ROM124 received detects that it is a facsimile image expressed with gray scale, It is the memory which

stores the program which operates CPU122 so that the record circuit 116 may print the facsimile image expressed with the gray scale which received [ above-mentioned ] on the above-mentioned record paper of one sheet. Gray scale is an expression method of the picture which expresses a picture using intermediate color (gray) as black as white.

[0078] Here, an example of the processing "which prints the facsimile image expressed with the received gray scale on the record paper of one sheet" is hung up over the next.

[0079] 2 pages of facsimile images expressed with the gray scale of A6 size are received by one communication. When the size of the record paper which prints this received picture is A4 size, the one page [ 1st ] gray scale facsimile image received in the record paper of the 1st sheet is printed, and the one page [ 2nd ] gray scale facsimile image received in the record paper of the 2nd sheet is printed.

[0080] Facsimile machine FS40 is a transmitting agency facsimile machine which transmits a color facsimile picture to facsimile machine FS30, and has the same composition as facsimile machine FS30.

[0081] Next, operation of facsimile machine FS30 is explained.

[0082] Drawing 10 - drawing 13 are the flow charts showing operation of facsimile machine FS30.

[0083] Drawing 14 is a figure showing the state where four received color facsimile pictures were printed in the record paper of one sheet.

[0084] Drawing 15 is a figure showing the state where two received color facsimile pictures were printed in the record paper of one sheet.

[0085] CPU122 provided in facsimile machine FS30, The indicator which initializes the memory 118 via the bus 126 (S102), then is provided final controlling element 120 via the bus 126 is cleared (S104), and CML of

NCU102 is turned off via the bus 126 (S106).

[0086]Next, if the information on the final controlling element 120 is inputted, it judges whether registration of the one-touch dial was chosen via the bus 126 (S108) and registration is chosen by the user of facsimile machine FS30. Via the bus 126, the telephone number of the transmission destination facsimile machine corresponding to an one-touch dial is registered into the memory circuit 118, as shown in drawing 9 (2) (S110). In drawing 9 (2), "03-3111-1111" is

registered as a telephone number of the transmission destination facsimile machine corresponding to the number "01" of an one-touch dial, for example. [0087]When registration of an one-touch dial is not chosen (S108), Or via the bus 126 when registration of an one-touch dial is chosen (S108) and registration is completed (S110), The inside of the transmission destination facsimile machine of shoes to be registered corresponding to the above-mentioned one-touch dial number, Registering the transmission destination facsimile machine which prints two or more color facsimile pictures which facsimile machine FS30 transmitted on the record paper of one sheet judges whether it was chosen or not (S112).

[0088]And when registering the transmission destination facsimile machine which prints two or more color facsimile pictures which facsimile machine FS30 transmitted on the record paper of one sheet is chosen (S112), this transmission destination facsimile machine is registered as shown in drawing 9 (1) (S144). In drawing 9 (1), the number "01" of an one-touch dial and the transmission destination FAKUSHIRI device corresponding to "03" are registered as a transmission destination facsimile machine which prints two or more color facsimile pictures which facsimile machine FS30 transmitted on

the record paper of one sheet.  
[0089] Then, when registering the transmission destination facsimile machine which prints two or more color facsimile pictures which facsimile machine FS30 transmitted on the record paper of one sheet is not chosen (S112), Or when registering the transmission destination facsimile machine which prints two or more color facsimile pictures which facsimile machine FS30 transmitted on the record paper of one sheet is completed (S114), Then, if it judges whether facsimile reception was chosen (S116) and facsimile reception is not chosen, others will be processed (S118) and it will prepare for the next facsimile reception.

[0090] On the other hand, when facsimile reception is chosen (S116), the addresser telephone number (telephone number of transmitting agency facsimile machine FS40) outputted from a switchboard is detected (S120) (S122), and a pre procedure is performed (S124). [ via the bus 126 ] [ CML of NCU102 ] In this pre procedure, facsimile machine FS30 has a receiving function of JPEG, and has a full color reception function, and image size notifies the information on the purport that it is receivable to A4 size to transmitting agency facsimile machine FS40.

[0091] Next, a facsimile image is received and printed, when transmitting agency facsimile machine FS40 judges whether JPEG transmission is carried out (S126) and does not carry out JPEG transmission (S128). Here, the image size of the facsimile image which received [ above-mentioned ] with the size of the record paper is not in agreement, and even when the image size of the facsimile image which received [ above-mentioned ] is smaller than the size of the above-mentioned record paper, one facsimile image which received [ above-mentioned ] is recorded on the above-mentioned

record paper of one sheet. Then, a defensive hand's order is performed (S130) and it prepares for the next facsimile reception.

[0092]On the other hand, when transmitting agency facsimile machine FS40 carries out JPEG transmission (S126), transmitting agency facsimile machine FS40 judges whether full color transmission is carried out (S132). When transmitting agency facsimile machine FS40 does not carry out full color transmission (S132), The number of pixels of the direction (horizontal) of X which SOF0 (Start Of Frame 0; "0" shows DCT by a basic method.) marker of the JPEG file sent from transmitting agency facsimile machine FS40 shows, Regardless of the number of pixels of the direction (perpendicular direction) of Y, one reception picture [ one ] is recorded on the record paper of one sheet (S134).

For example, when one facsimile image of A4 size is received from transmitting agency facsimile machine FS40, This received facsimile image is recorded on one record paper (record paper of A4 size) of one sheet, Or when one facsimile image of transmitting agency facsimile machine FS40 to A6 size is received, this received facsimile image is recorded on one record paper (record paper of A4 size) of one sheet. Then, a defensive hand's order is performed (S136) and it prepares for the next facsimile reception.

[0093]It is JPEG transmission and the facsimile image sent by the transmission which is not full color refers to the facsimile image expressed with gray scale.

[0094]The number of pixels of the direction (horizontal) of X which SOF0 marker of the JPEG file sent from transmitting agency facsimile machine FS40 shows when transmitting agency facsimile machine FS40 carries out full color transmission (S132), With the number of pixels of the direction

(perpendicular direction) of Y, it is judged whether the image size of the received color facsimile picture is A4 size (S138).

[0095]In the case of A4 size (S138), the image size of the color facsimile picture which received [ above-mentioned ] receives the color facsimile picture which received [ above-mentioned ], and prints this received color facsimile picture on one record paper of A4 size (S140). Here, one color facsimile picture which received [ above-mentioned ] is recorded on the record paper of one sheet. Then, a defensive hand's order is performed (S142) and it prepares for the next facsimile reception.

[0096]The image size of the color facsimile picture whose image size of the color facsimile picture which received [ above-mentioned ] is not A4 size and which carried out a case (S138), then the above-mentioned reception judges whether it is A6 size by the above-mentioned SOF marker (S144). And when the image size of the color facsimile picture which received [ above-mentioned ] is A6 size, this received color facsimile picture is printed (S148).

[0097]the picture A which shows drawing 14 here the color facsimile picture which received [ above-mentioned ] -- four pieces are printed by one sheet of record paper of A4 size like. Namely, CPU repeats the A6 piece same image data as a scanning direction, and outputs it to a record circuit. And after generating the picture for two, four pictures of the A6 same size can be outputted by repeating the same operation. When two received color facsimile pictures (picture of A6 size) exist, the 1st four picture is printed on the record paper of the 1st sheet, and the 2nd four picture is printed on the record record paper of the 2nd sheet. The received color facsimile picture (picture of A6 size) carries out processing same also at the time of or more three existence.

instead of printing four identical images on one sheet of record paper of A4 size -- two pieces -- or it may be made to print three pieces Cut line CL may be printed on the boundary line of the four printed color facsimile pictures A. It is easy to separate, when the boundary of a picture clarifies and separates color picture A printed [ above-mentioned ] by printing cut line CL.

[0098]Then, a defensive hand's order is performed (S150) and it prepares for the next facsimile reception.

[0099]When the image size of the received color facsimile picture is not A6 size (S144), then, it judging by the above-mentioned SOF marker (S146), and whether the image size of the color facsimile picture which received [ above-mentioned ] is A5 size, When the image size of the color facsimile picture which received [ above-mentioned ] is A5 size, this received color facsimile picture is printed (S152).

[0100]the picture C which shows drawing 15 here the color facsimile picture which received [ above-mentioned ] -- two pieces are printed by one sheet of record paper of A4 like. This two printed picture C is the same picture. When two received color facsimile pictures (picture of A5 size) exist, the 1st two picture is printed on the record paper of the 1st sheet, and the 2nd two picture is printed on the record record paper of the 2nd sheet. That is, CPU continues two pictures of the same A5 size, outputs to a record circuit, and repeats this twice. The received color facsimile picture (picture of A5 size) carries out processing same also at the time of or more three existence. The picture expressed to the boundary line of the picture to output is outputted to a record circuit from ROM, and cut line CL may be printed on the boundary line of the two printed color facsimile pictures C. It is easy to separate, when the boundary of a picture clarifies and



separates the color facsimile picture C printed [ above-mentioned ] by printing cut line CL.

[0101]The information on the purport that two or more pictures A and pictures C are printed on the record paper of one sheet as shown in drawing 14 and drawing 15. Since facsimile reception was carried out [ above-mentioned ], before starting printing, while carrying out the above-mentioned printing, it may be made to express to the indicator provided in the final controlling element 120 as at least one timing after the above-mentioned printing is completed.

[0102]Then, a defensive hand's order is performed (S154) and it prepares for the next facsimile reception.

[0103]When the image size of the color facsimile picture which received [ above-mentioned ] is not A5 size (S146), this received color facsimile picture is printed on the record paper of A4 size (S140). Here, one picture received in the record paper of one sheet is printed. Then, a defensive hand's order is performed (S142) and it prepares for the next facsimile reception.

[0104]Since two or more received color facsimile pictures are printed on the record paper of one sheet according to the 3rd example of the above, the margin portion of a record paper can decrease and the futility of a record paper can be eliminated as much as possible.

[0105]According to the 3rd example of the above, printing two or more received color facsimile pictures on the record paper of one sheet is displayed on the indicator provided in the final controlling element 120, and the user of facsimile machine FS30 can know the information on this purport. When printing two or more received color facsimile pictures is completed, the user of facsimile machine FS30 can know certainly that two or more same pictures were printed.

[0106]According to the 3rd example of

the above, a binary, or a gousy race -- a binary with little [ when the facsimile image expressed with a kale is received ] necessity of distributing, or a gousy race -- since only one piece is printed, the facsimile image expressed with a kale can eliminate the futility of the ink which printing takes.

[0107]In the 3rd example of the above, as shown in drawing 14 and drawing

15, are printing one picture which carried out color facsimile reception on the record paper of one sheet, but.

When the color facsimile picture received by one communication covers two or more, two or more pictures received to the 1st are recorded on the record paper of the 1st sheet, and two or more pictures received to the 2nd are recorded on the record paper of the 2nd sheet, and it may be made to record them on it one by one like the following.

[0108]In drawing 14 and drawing 15, the picture received in the record paper of one sheet is printed so that unfilled space may not arise, but even if it is a case where unfilled space arises (for example, when the size of a record paper is A4 and the size of the received picture is B6), the 3rd example of the above is applicable.

[0109]Although the received picture is put in order without a crevice and printed in the 3rd example of the above, the space of predetermined width may be provided near the edge of a record paper, and a predetermined width crevice may be established and printed between pictures. It is finely detachable, even if some of the accuracy of position of a separation position are bad since unfilled space and a crevice are established when separating the printed picture by this. Especially [4th example] drawing 16 that can detach finely even when detaching two or more sheets repeatedly is a block diagram showing the composition of facsimile machine FS50 which is the 4th example.

[0110]The 4th example the received

color facsimile picture in the 3rd example, Only when printing more than one on the record paper of one sheet is directed from transmitting agency facsimile machine FS60 which is transmitting [ the above-mentioned color facsimile picture ] origin, it is an example of the facsimile machine printed based on these directions.

[0111]The fundamental composition of facsimile machine FS50 is the same as facsimile machine FS30, and it differs from facsimile machine FS30 in that CPU122A and ROM124A were provided instead of CPU122 and ROM124. Transmitting agency facsimile machine FS60 which transmits a facsimile image has the same composition as facsimile machine FS50.

[0112]CPU122A controls the facsimile machine FS50 whole, and performs a facsimile-transmission control procedure. And the program which controls CPU122A is stored in ROM124A.

[0113]ROM124A only the picture which had the directions from transmitting agency facsimile machine FS60 which is transmitting [ the above-mentioned color facsimile picture ] origin among the received color facsimile pictures. It is the memory which stores in the above-mentioned record paper of one sheet two or more programs which operate CPU122 so that the record circuit 116 may be used and printed.

[0114]Drawing 17 is a flow chart showing operation of facsimile machine FS50 which is the 2nd example.

[0115]Drawing 17 shows only a different portion in the flow chart of drawing 10 - drawing 13.

[0116]When it is full color and a facsimile image is transmitted from transmitting agency facsimile machine FS60 (S132), That facsimile machine FS50 is a facsimile machine which prints two or more color facsimile pictures received from transmitting

agency facsimile machine FS60 on the record paper of one sheet, It registers with transmitting agency facsimile machine FS60, and it is judged whether facsimile machine FS50 received the information on this purport that it is registered (S162).

[0117]And when the information on the purport that above-mentioned it is registered is received (S162), it is judged whether the size of the picture of the color facsimile picture received from transmitting agency facsimile machine FS60 is A4 size (S138).

[0118]On the other hand, when not receiving the information on the purport that above-mentioned it is registered (S162), the color facsimile picture transmitted from transmitting agency facsimile machine FS60 is received, and this received color facsimile picture is printed on the record paper of A4 size (S140). Here, one received picture is recorded on the record paper of one sheet.

[0119]Only when directed from FAKUSHIRIMIRI device FS60 of a transmitting agency according to the facsimile machine 50, Since two or more received color facsimile pictures are printed on the record paper of one sheet, and the received picture is printed on one record paper of one sheet when not directed, futility, such as ink which printing takes, can be eliminated.

[0120]Although it directs to print two or more received pictures when facsimile machine FS50 is beforehand registered into transmitting agency facsimile machine FS60 from facsimile machine FS60 of a transmitting agency to the facsimile machine 50, When the user of the transmitting agency facsimile machine 60 does facsimile transmission of this instruction content, it may be made to direct by depressing a predetermined button etc. Since only the picture which needs to print more than one can be directed that two or more receiver facsimile machine FS50 print also by

doing in this way according to the contents of the picture, futility, such as ink which printing takes, can be eliminated.

[0121]The telephone number of transmitting agency facsimile machine FS60 is registered into the memory 18. When the color facsimile picture has been transmitted from the transmitting agency facsimile machine, The telephone number of a this transmitting former facsimile machine is detected, and when this detected telephone number is in agreement with the telephone number of the transmitting agency facsimile machine registered [ above-mentioned ], it may be made to print two or more color facsimile pictures which received [ above-mentioned ] on the record paper of one sheet. It may replace with the above-mentioned telephone number, and the number (for example, Internet address) which can identify a transmitting agency facsimile machine may be adopted.

[0122]A recorder may be an external printer, although a facsimile machine having included the record circuit is mentioned as an example in the example mentioned above and it explains it.

[0123]Although the facsimile machine was hung up over the example and explained, It is pictorial communication equipment other than a facsimile machine, and color facsimile communication can be carried out and the above-mentioned example can be applied to the pictorial communication equipment (for example, a TV phone, a personal computer) which can print the picture moreover received.

[0124]

[Effect of the Invention]According to the invention indicated to claim 1 - claim 5 and claim 13 - claim 17. In pictorial communication equipment, after the color facsimile picture which small memory space also received is printed, the effect that the same picture as the color facsimile picture printed

[ above-mentioned ] can be printed several necessary part minutes again is done so.

[0125]According to the invention indicated to claim 6 - claim 12 and claim 18 - claim 24, when recording the received color facsimile picture, the effect that the futility of a record paper can be eliminated as much as possible is done so.

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[Translation done.]